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Original Research Article

A cross sectional study on menstruation and menstrual hygiene among medical students of Valsad, Gujarat

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ABSTRACT

Background: In many developing countries, a culture of silence surrounds the topic of menstruation and menstruation related issues, as results many young girls lack appropriate and sufficient information regarding menstruation and menstrual hygiene. This may result in incorrect and unhealthy behavior during their menstrual period. So, Good hygienic practices such as the use of sanitary pads and adequate washing of genital area are essential during menstruation.

Methods: A cross sectional study conducted among medical students of GMERS Medical College, Valsad. A total 203 girls of first, second and third MBBS medical students between age group of 16-22 years were participated in this study. Data was collected by using pre-designed, pre-tested Questionnaire. The data was entered and analyzed by using Microsoft excel 2010 and appropriate statistical test were applied.

Results: Out of 203 Girls 84.24% girls had knowledge about menstruation before they experienced first menstruation (menarche) and Mother was found to be the main source of information. Mean age of menarche was 14.5 years. 86.70% girls use sanitary napkins where as 13.3% girls use clothes and reuse them. Most of the girls perceive that sanitary napkin is comfortable and cause adequate absorption but having disadvantage of an expensive and not being easily available at all places.

Conclusions: Menstrual hygiene is a vital aspect of health education for all adolescent girls as it related with health consequences. More number of girls in the urban area was using commercially available sanitary pads as compare to the rural girls. To improve the menstrual hygiene among adolescent girls sanitary napkins should be made universally available at affordable price.

Keywords: Medical student, Menstrual hygiene, Menarche, Sanitary napkin

INTRODUCTION

According to United Nations Children does Emergency Fund (UNICEF) there are 243 million adolescents comprise 20% of the total population of India which clearly shows that India is truly “young”.¹ This sheer number itself is a big challenge in itself 15-19 years constitute 10% and majority lives in rural areas. Special health care needs and requirements of women during monthly cycle of menstruation are collectively given the term “Menstrual hygiene”.² Menstruation hygiene is an

issue that every girl and women has to deal with in her life but there is lack of awareness on the process of menstruation. The first menstruation also called as ‘MENARCHE’. Menarche marks the beginning of a multitude of physical, physiological, and psychological changes in the lives of the adolescent girls. Menarche is one part of the maturation process, but it is often, culturally defined as the indicator of girl's maturity and readiness for marriage and sexual activity. Although menstruation is a natural process, it linked with several misconception and practices, which sometime result in

adverse outcomes.³ Menstruation is still regarded as something unclean or dirty in Indian society and it is strongly related with misconceptions and cultural restrictions.⁴

Issues associated with menstruation are never discussed openly and this burden young girls by keeping them ignorant of this biological function.⁵

Till now, the poor menstrual hygiene in developing countries has been an insufficiently acknowledged problem. Researches confirm that with safe menstrual hygienic practices adolescents girls were less vulnerable to reproductive tract infections (RTIs).⁶

Most of the time adolescent girls are unprepared in terms of knowledge, skill and attitude for managing the menstrual cycle.⁵ In a study among adolescent, only about 60% girls had partial awareness about adolescent physical changes and menarche. They may also have unsaid anxieties and apprehensions and are subjected to social taboos and restraint during their periods.⁷

Several studies documented that menstruation related problems, had affected more than a third of student's class concentration, participation, socializing with friends, test taking skills and homework task performance. Dysmenorrhea was significantly associated with school absenteeism and decreased academic performance, sports participation, and socialization with peers.^{8,9}

Majority of studies were conducted among the adolescent school girls of different population. So present study was conducted to see the knowledge, attitude and practice among medical students regarding menstruation and menstrual hygiene.

METHODS

A cross sectional study was conducted among 1st, 2nd and 3rd year of MBBS medical students of GMERS Medical College-Valsad from period of July-2015 to September-2015.

The purpose of the study was explained to the students and informed consent was obtained from the girls for participation in this study.

Complete information on individual background, knowledge, awareness, sources of information and practice regarding menstruation and menstrual hygiene were collected from 1st, 2nd and 3rd year of MBBS students in predesigned pretested Performa with following exclusion criteria.

Exclusion criteria

- Those Girls who were absent at the time of survey

- Those who were not willing to participated in this study or incompletely field questionnaire were excluded from the study
- Girls who don't have menarche or those having menarche related problems

Total 203 girls were participated in this study after exclusion criteria.

A study also followed by Questions and concerns of participants and education on menstrual hygiene conducted by female faculty of Obstetric and Gynecology department at the end of session.

No follow up visit were planned to maintain confidentiality of questionnaire and truthfulness of response. Data was entered and analysed by using MS office 2003 and appropriate statistical test were applied.

RESULTS

Table 1: Demographic profile of medical students.

	Numbers	Percentage
A. Age wise distributions of medical students		
Age of students (years)	Numbers	Percentage
16	01	00.49
17	09	04.43
18	53	26.11
19	68	33.50
20	55	27.10
21	13	06.40
22	04	01.97
B. A distribution of medical students on the basis of religion		
Religion	Numbers	Percentage
Hindu	189	93.10
Muslim	10	04.93
Other	04	01.97
C. A Distribution of medical students on the basis of residential area		
Area of Residency	Number	Percentage
Rural	27	13.30
Urban	176	86.70
D. A Distribution of medical students as per their mother's education		
Education of mother	Number	Percentage
Illiterate	01	00.49
Primary	11	05.42
Secondary	10	04.93
Higher secondary	38	18.72
Graduate	96	47.29
Post-graduate	47	23.15

Total 203 girls from 1st year (61), 2nd year (82) and 3rd year (60) MBBS of GMERS Medical College, Valsad

were participated in the study and we noted the following observations.

Table 1 shows Demographic profile of medical students, all students were in age group 16-22 years of age and majority of girls were in 18-20 years of age (86.71%) and mean age of girls were 19 years. Out of 203 girls 93.10% were Hindu and 86.70 are residing in Urban area.

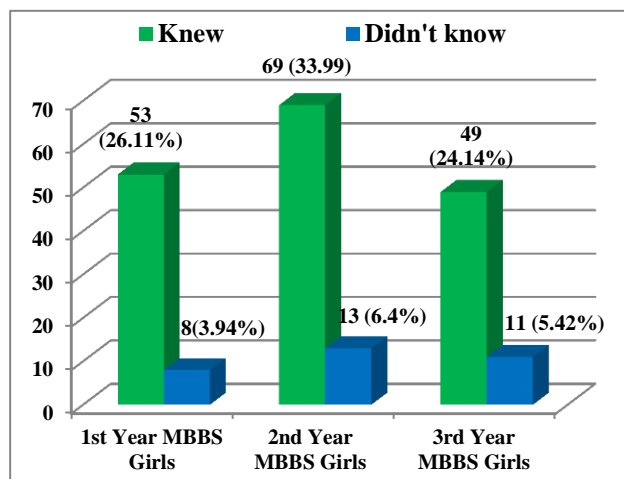


Figure 1(A): Distribution of medical students on the basis of pre-menarchal knowledge.

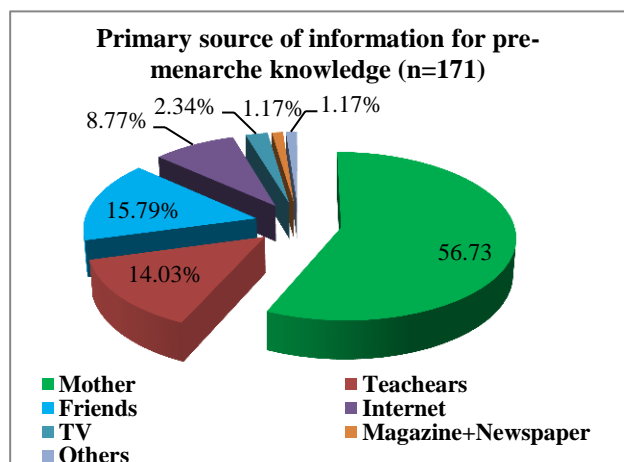


Figure 1(B): A distribution of medical students on the basis of main source of information.

Figure 1(A) shows that out of 203 girls 26.11% of 1st year, 33.99% of 2nd year and 24.14% of 3rd year medical students (Total 84.24%) had knowledge about menstruation before menarche. The primary source of information for menstruation knowledge was mother (56.73%) followed by Friends (15.79%), Teacher (14.03%), Internet (8.77%), Television (2.34%) and Magazine (2.34%) (Figure 1 (B)).

Table 2 shows the relationship between residential area and pre-menarchal knowledge among girls, 86.70% of girls were from urban area and 13.30% were from rural

area. Out of 203 71.43% of girls belong to urban area had pre- menarchal knowledge as compare to rural area (12.81%). A Relationship between residential area and pre-menarchal knowledge among girls was statistically significant.

Table 2: Relationship between residential area of students and pre-menarchal knowledge.

Area Premenarche knowledge	Rural	Urban	Total
	Number (%)	Number (%)	Number (%)
Knew	26 (12.81)	145 (71.43)	171 (84.24)
Don't know	01 (0.49)	31 (15.27)	32 (15.76)
Total	27 (13.30)	176 (86.70)	203 (100)

Table 3: Distribution of medical students as per their menstrual history.

	Numbers	Percentage
A. Distribution as per age at menarche		
Age at menarche (In years)	Numbers	Percentage
11	03	01.48
12	33	16.26
13	55	27.10
14	63	31.03
15	38	18.72
16	09	04.43
17	01	00.49
18	01	00.49
B. Distribution on the basis of duration of menstrual bleeding		
Duration of menstrual bleeding (In days)	Number	Percentage
<4 days	55	27.10
5 days	108	53.20
6 days	25	12.32
7 days	11	05.41
8 days	04	01.97
>9 days	00	00
C. Distribution on the basis of menstrual bleeding		
Menstruation	Number	Percentage
Regular	158	77.83
Irregular	45	22.17

Table 3(A) Shows that age at menarche of these girls were ranges between 11-18 years of age, the maximum numbers of girls between 13-15 years (76.85%) of age group and mean age at menarche was 14.5 years. Out of 203 girls 18 (19.7%) experienced the menstrual bleeding more than 5 days (Table 3(B)). A longer the duration and amount of menstrual blood loss, greater the risk of iron deficiency anaemia among girls.

Out of 203 girls 86.70% were using sanitary napkin and 13.3% were using either cloth or both during their menstrual period. 82.27% of girls were needed to change 2-4 absorbent during first 2 days of menstruation (Table 4

A and B). 71.94 % girls were dispose the used absorbent in Public dustbin followed by dispose with domestic refuse (14.29%) (Table 4 (C)).

Table 4: Distribution of medical students as per menstrual hygiene.

	Number	Parentage
A. Distribution of students as per type of absorbent use during menstruation		
A. Type of absorbent used	Number	Parentage
Sanitary napkin	176	86.70
Cloth	07	03.45
Both	20	09.85
B. Distribution of students as per number of times absorbent changed in a day		
No. Absorbent change during first 2 days of menses	Number	Parentage
1	24	11.82
2-4	167	82.27
5-6	12	05.91
C. A distribution of students on the basis of method of disposal of absorbent		
Method of disposal	Number (n=196)	Parentage
Bathroom/Toilet	04	02.04
Bury in ground	11	05.61
Public dustbin	141	71.94
With domestic refuse	28	14.29
Other	07	03.57
Not answered	05	02.55
D. A distribution of students on the basis of cleaning habit of genital during Menstruation		
Cleaning habit of genital	Number (multiple answers)	Percentage
Don't clean	03	1.48
During bathing	92	45.32
Every time with toilet	147	72.41
Not answered	02	0.99

Majority of girls had habit of cleaning genital in a day either during bathing or every time with toilet (97.5%). Out of 198 girls 135 (68.18%) were using soap and water and 63 (31.18%) only water as a cleaning agent for genital. Most of the girls perceive that sanitary napkin is comfortable (88.18%), cause adequate absorption (66.50%) and doesn't stain the cloths (49.26%) but only disadvantage is expensive and not available at everywhere.

DISCUSSION

A lot of studies have been done on practices of menstrual hygiene, but most of them done on rural population or in school girls. There is paucity of this study in medical students to the best of author's knowledge. This study has tried to fill this gap.

Menstrual disturbances are the commonest presenting complaint in the adolescent age group and unhygienic practices during menstruation can lead to untoward consequences like pelvic inflammatory diseases and even infertility.¹⁰

In present study all students were in age range between 16-22 years of age and majority of girls were in 18-20 years of age (86.71%). Mean age of girls were 19 years. In Dr. Neelima Sharma et al study among medical students all girls were in age range between 18-26 years, of this 50.56% girls were in the age group of 18-20 years followed by 34.65% in 21-23 years of age group.¹¹ In present study 93.10% were Hindu and 86.70 are residing in urban area.

In present study 84.24% had knowledge about menstruation before menarche. Dr. Neelima Sharma et al in their study among medical students in north India found that 67.71% of student had previous knowledge of menstrual practice before attaining menarche and this result is in accordance with other studies done by Dasupta A et al, (67.5%) and Juyal R et al (64.5%) was done in population other than medical student.^{3,5} In study conducted by Rupali Patel at Nagpur and Kalpana Katiyar et al at urban area of Meerut only 55.57% and 38.% girls had knowledge regarding menstruation.^{12,13} The higher percentage of pre-manarchal knowledge in our study is due to majority of girls are belong to upper socio-economic class and may be due to increase socialization and increase usage of internet.

In Present study the main source of information regarding menstruation knowledge was Mother (56.73%) followed by Friends (15.79%), Teacher (14.03%), Internet (8.77%), Television (2.34%) and Magazine (2.34%) which is similar to study conducted by Dr. Neelima Sharma et al and Juyal R et al, that source of information was mother (35.22% and 31.2%), friends (23.29% and 31.8%), sister (22.15% and 28.1%), internet (6.81%), teachers (3.40% and 3.4%) respectively.^{5,11} Rupali Patel et al, in her study found that the main source of information was mother (33.95%), elder sister (25.62%), teacher (25.31%) and friend (15.12%).¹²

In present study 71.43% of girls belong to urban area had pre-menarchal knowledge as compare to rural area (12.81%) and found statistically significant. In contrast to other studies In which awareness among rural girls was significantly higher than urban girls.^{3,5}

In present study the ages at menarche were ranges between 11-18 years and the mean age at menarche was 14.5 years. Shubhangi Nayak et al, in their study showed the age range between 10-16 years with mean age at menarche was 13.13+1.046.¹⁴ In Study conducted by Dr. Neelima et al, found the age ranges between 9-17 years with mean age 13 years¹¹ which was almost similar to other studies done in different population (urban, rural, and tribal) in various places all over the India.^{3,5,15} In our

Study 19.7% girls experienced the menstrual bleeding more than 5 days, 77.83% of girls have regular menstrual cycle and 22.17% had irregular menstrual cycle. In Dr. Neelima Sharma et al 57.0% of girl were having regular menses with moderate blood flow while 43% of girls reported with irregular menses.¹¹

In present study 86.70% girls were using sanitary napkin and 13.3% were using either cloth or both during their period which was similar to study conducted by Dr. Neelima Sharma et al in which 86.36% of girls were using sanitary napkin as absorbent material during their menstrual cycle, while 70.2%, 81.73% and 94.0% girls were using sanitary napkin as an absorbent in study conducted by Subhangi Nayak et al Madhumita B et al and Adhikari P et al respectively.^{11,14,16,17}

In this study 82.27% of girls were needed to change 2-4 absorbent during first 2 days of menstruation which was similar to study conducted by Dr. Neelima Sharma et al 72.0% were changed their pad six hourly.¹¹ In present study 71.94 % girls were dispose the used absorbent in Public dustbin followed by dispose with domestic refuse (14.29%). In Subhangi Nayak et al study 70.2% girls were using sanitary pad and 25.6% were using clean cloth as an absorbent. They noted that 71.94 % girls were disposing the used absorbent in Public dustbin followed by dispose with domestic refuse (14.29%). 70.2% of girls wrapped the used absorbent in paper and threw it off.¹⁴

In present study majority of girls had habit of cleaning genital in a day either during bathing or every time with toilet (97.5%) which is in contrast with the study conducted by Dr. Neelima Sharma et al among medical students were only 42% doing vaginal wash daily.¹¹ In our study 68.18% of girls were using soap and water and 31.18% only water as a cleaning agent for genital. In study conducted by Dasgupta et al, and Madhumita Bhattacharyya et al found that 97.5% and 64.74% of girls cleaned their external genitalia with soap and water regularly during the days of menstruation respectively.^{3,16} Different studies from India and abroad have reported that 34-42.2% adolescent cleaned their external genitalia with soap and water during menstruation.^{15,18-20}

In present study 88.16% of girls perceived that sanitary napkin is comfortable, 66.50% perceived that it cause adequate absorption and have only disadvantage is expensive and not easily available at all places. Juyal R et al, in their study found that availability and affordability being key obstacles to more widespread use of sanitary napkin followed by lack of awareness and lack of disposal facilities.⁵

CONCLUSION

Improper Menstrual hygiene is important risk factor for reproductive tract infections and is a vital aspect of health education for adolescent Girls. Today millions of Girls and women are sufferers of RTI and its complications,

often the infection may transmit to the offspring of the pregnant mother. If adolescent girls are made aware of menstrual hygiene and reproductive health right from the early adolescent period through compulsory sex education in school curriculum, educational television programmes, and knowledgeable parents, the menarche will not shock for them and they will also be better equipped to cope up with the situation and lead to healthy life to them.

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